WHAT IS CLAIMED IS:

1. A valve cover assembly comprising a valve cover having a mating surface adapted to be attached to a cylinder head of an internal combustion engine having a continuous bead of an adhesive disposed on the perimeter of the mating surface of the valve cover.

2. A valve cover assembly according to Claim 1 wherein the valve cover does not have bolt holes which have a primary function of holding the valve cover to the cylinder head.

3. A valve cover assembly according to Claim 1 wherein the adhesive is a cure-on-demand adhesive.

4. A valve cover assembly according to Claim 1 wherein the valve cover is fabricated from a plastic material.

5. A valve cover assembly according to Claim 4 wherein the valve cover further comprises one or more integral means for holding the valve cover in place on a cylinder head while the adhesive cures.

6. A valve cover assembly according to Claim 4 wherein the valve cover comprises a blend of nylon 6,6, nylon 6 or a mixture thereof with syndiotactic polystyrene.

7. A valve cover according to Claim 4 wherein the valve cover further comprises one or more access ports adapted to allow access to the cylinder head without removal of the valve cover and one or more means for covering and sealing the one or more access ports.

8. A valve cover according to Claim 4 comprising two parts , a top portion and a lower portion, where the top portion of the valve cover can be removed from the lower portion valve cover to provide access to the cylinder head via an access port resulting from removing the top portion of the valve cover.

9. A valve cover assembly according to Claim 7 wherein each access port has a lid which can be mechanically fastened to the access port.

10. A valve cover assembly according to Claim 9 wherein one or more of the lids for the one or more access ports further contains a coil, pcv system components, a fuel rail or the like.

11. An engine assembly comprising one or more valve covers having mating surfaces and one or more cylinder heads having mating surfaces adapted to fit to the mating surfaces of the valve covers wherein each valve cover is adhesively bonded to a cylinder head wherein a continuous layer of adhesive is disposed between the mating surfaces of each valve cover and the cylinder head to which each valve cover is bonded, wherein the continuous layer of adhesive forms a seal between the mating surface of each valve cover and cylinder head pair such that the transmission of gasses and liquids between each valve cover and cylinder head pair where the mating surfaces are in contact is significantly reduced or prevented.

12. An engine assembly according to Claim 11 wherein the valve cover is fabricated from a plastic material.

13. An engine assembly according to Claim 12 wherein the valve cover further comprises one or more integral means for holding the valve cover in place on a cylinder head while the adhesive cures.

14. An engine assembly according to Claim 12 wherein the valve cover further comprises one or more access ports adapted to allow servicing the cylinder head without removal of the valve cover and one or more means for covering and sealing the one or more access ports.

15. An engine assembly according to Claim 12 where the top portion of the valve cover can be removed for the valve cover to provide access to the cylinder head via an access port resulting from removing the top portion.

16. An engine assembly according to Claim 14 wherein each access port has a lid which can be mechanically fastened to the access port.

17. An engine assembly according to Claim 16 wherein one or more of the lids for the one or more access ports further contains a coil, a pcv system component, a fuel rail or the like.

18. A method for bonding a valve cover to a cylinder head comprising

a) applying to the valve cover or the cylinder head, wherein the valve cover has a mating surface adapted to be mated with a mating surface of a cylinder head, a continuous bead or film of adhesive along the entire mating surface of the valve cover or the cylinder head;

b) contacting the mating surface of the valve cover with the mating surface of the cylinder head such the continuous bead or film of adhesive is disposed between the mating surfaces of the valve cover and the cylinder head;

c) curing the adhesive to form a permanent bond between the mating surfaces of the valve cover and the cylinder head wherein the adhesive forms a seal between the valve cover and the cylinder head.

19. A method according to Claim 18 wherein the adhesive is a cure-on-demand adhesive and the adhesive bead is contacted with the valve cover mating surface in a location remote from the location wherein the valve cover is contacted with the cylinder head.

20. A method according to Claim 19 wherein the adhesive is activated just prior to contacting the valve cover with the cylinder head.

21. A method according to Claim 20 wherein the adhesive is activated by exposure to a heat source just prior to contacting the valve cover with the cylinder head

22. The method of Claim 21 wherein the valve cover mating surface and the cylinder head mating surface are maintained in contact, with the adhesive bead or film disposed between them, through the use of a mechanical fastening means other than bolts.

23. The method of Claim 22 wherein the mechanical fastening means is integrally attached to valve cover and/or the cylinder head.

24. A valve cover comprising a plastic material having one or more ports which have a sealing lid which can be removed from the valve cover.

25. A valve cover according to Claim 24 wherein each sealing lid has attached to it a pcv system component, coil or a fuel rail wherein when the valve cover and sealing lid(s) are assembled the pcv system component , coil or fuel rail are located inside the valve cover.